

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>HP 480/03 PCT</b>		<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/DE2004/000306</b>	International filing date (day/month/year) <b>19.02.2004</b>	Priority date (day/month/year) <b>20.02.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>H01M 8/02, 8/24</b>			
Applicant <b>WEBASTO AG</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																									
<p>4. This report contains indications relating to the following items:</p> <table><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>		<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report																								
Name and mailing address of the IPEA/	Authorized officer																								
Facsimile No.	Telephone No.																								

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/DE2004/000306

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-11 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-7 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1-7 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/DE2004/000306

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-7	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-7	NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

## 1. Reference is made to the following documents:

D1: US 5 541 015 A (IKENAGA TOMOTOSHI et al.),  
30 June 1996 (1996-07-30)

D2: DE 100 47 248 A (DORNIER GMBH), 18 April 2002  
(2002-04-18)

D3: EP 1 248 310 A (MATSUSHITA ELECTRIC IND CO LTD),  
9 October 2002 (2002-10-09)

2. INVENTIVE STEP (PCT Article 33(3))

2.1 The application fails to meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step (PCT Article 33(3)).

2.1.1 Document D1, which is considered to be the prior art closest to the subject matter of claim 1, discloses the following (the references in parentheses are to D1):

- A fuel cell stack consisting of a plurality of fuel cells with interposed separating plates, a supply channel for the fuel gas and an outlet

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

channel for the waste gas, with parallel longitudinal fuel gas guide channels on one side, a distribution zone connecting the supply channel to the longitudinal channels and a collection zone connecting the longitudinal channels to the outlet channel; also, on the other side, an oxidant supply channel running towards the longitudinal channels (see figures 2 to 11; column 2, lines 5 to 26; and claims 1 to 4).

- 2.1.2 The subject matter of claim 1 differs from what is known from D1 in that the supply and outlet channels are internal.
- 2.1.3 The problem addressed by the present invention can thus be seen as that of devising a simple way to deliver the fuel gas to the fuel cells.
- 2.1.4 The solution proposed in claim 1 of the application cannot be considered inventive (PCT Article 33(3)) because the claimed feature has already been employed for the same purpose in a similar fuel cell (see document D2, especially claims 1 to 10 and figures 1, 4 and 5; also document D3, especially figures 2 to 5). A person skilled in the art wishing to achieve the same purpose with a fuel cell as described in D1 could easily incorporate internal supply and outlet channels in a fuel cell as described in D1 with similar results. It would thus be possible to arrive at a fuel cell stack as defined in claim 1 without making an inventive contribution.

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The solution proposed in independent claim 1 cannot therefore be considered inventive (PCT Article 33(3)).

3.1 DEPENDENT CLAIMS 2-7

Dependent claims 2 to 7 do not contain any features that meet the PCT requirements in respect of inventive step when combined with the features of any of the back-referenced claims.

Document D2 discloses the following:

- Claim 3: supply and outlet channels arranged diagonally with respect to each other (figure 5).
- Claims 4 and 5: Distribution zones which taper from the supply channel towards the longitudinal channels, and collection zones which taper from the outlet channel towards the longitudinal channels, the distribution zone and the collection zone being arranged symmetrically (figures 1, 4 and 5).
- Claims 6 and 7: Distribution zones and collection zones which, being made of metal, allow the transfer of heat energy between the fuel gas and the oxidant (paragraph [0014]; claims 5 and 6).

Document D3 discloses the following:

- Claim 2: Supply and outlet channels arranged near one side of the fuel cell stack (paragraphs [0014], [0039] and [0040]; claims 1 to 10; figures 1, 4 and 5).